of tin from surface to bedrock is unlikely and that the best values will be found in nests or pockets near bedrock. This erratic distribution of the mineral is due to climatic conditions whereby the tin concentrations are the result of cloudburst action.

KINGSTON DISTRICT

The Kingston district, also known as the Bunker Hill or Summit, is in Kingston Canyon on the west flank of the Toiyabe Range on the southeast side of Bunker Hill Peak, the highest summit in Lander County; the altitude is 11,735 feet. The entrance to Kingston Canyon is from Smoky Valley. Bunker Hill Peak divides the canyon at its head from Big Creek Canyon, which drains westward into the Reese River Valley, the two canyons forming a line that crosses the Toiyabe Range from east to west. Kingston Creek, in the canyon of the same name, is one of the largest streams in the Toiyabe Range; it has a fall of nearly 800 feet per mile. The district is accessible by automobile over fair desert roads from Austin, 30 miles to the north.

The first mineral discoveries were made here in 1863, and shortly afterward at least four amalgamating mills were erected in Kingston Canyon. These mills were unsuccessful owing to inadequate equipment and the lack of knowledge concerning the treatment of the ore. Later, a number of other mills were built in this area, the largest of which was erected about 1911 at the mouth of Kingston Canyon. This mill was equipped with 30 stamps and employed the cyanide process. It operated only a short time. The most important properties in the early days were known as the Phoenician and the Victorine.

A report by Raymond[14] written in 1875 is as follows:

> The Victorine mine shows a very large ledge, and the ore can undoubtedly be produced cheaply; but the present developments do not warrant a judgment as to its future. The milling of the ores of the vicinity in these mills has not given satisfaction, and could not well do so, on account of the want of a treatment consistent with the character of the ore. It is thought that these mines might fully supply a large mill, but the process employed should be one similar to the Washoe process.

No reliable statistics are available on the early production, but it probably exceeded $100,000. In early 1938 the only property active in the district was the Kingston group of claims.

Kingston Group

The Kingston group, comprising six patented claims owned by Joseph H. and Bernice E. Miller of Palo Alto, Calif., is on the north side of Kingston Canyon at an altitude of about 8,000 feet. This property is one of the early locations, and it has been worked intermittently for many years. Several years ago the property was taken over under bond and lease by S. H. Linka of Austin, Nev. Linka has mined about 650 tons of gold-silver ore, the bulk of which was of shipping grade.

14/ Raymond, Rossiter W., Report on the Mineral Resources of the States and Territories West of the Rocky Mountains: 1875, p. 239.

Development includes two main adits, each about 700 feet in length, several inclines, and other scattered workings, totaling about 3,000 feet. Equipment includes a small compressor, blacksmith shop, camp buildings, and a small mill equipped with crusher, stamps, amalgamation plate, and concentrating table.

The prevailing formation is limestone, interbedded with siliceous shales and slates intruded by basic dikes. The ore occurs in two parallel quartz veins known as the Phoenician and the Morris, the latter being an extension of the Victorine. The veins are about 100 feet apart and have an irregular strike and dip conformable to the strike and dip of the enclosing sediments. The dip is generally flat, ranging from 22° to 30°, and the width of the veins ranges from 3 to 8 feet. The croppings are very prominent and traceable for a length of over 1 mile. The ore consists chiefly of gold and silver in a gangue of quartz stained with iron oxides. The oxidized zone extends to a depth of about 100 feet, below which the ore contains chalcopyrite, pyrite, galena, tetrahedrite, and gold in a quartz gangue. A shipment of ore from the Buckeye claim to the Nevada Consolidated Copper Co. smelter at McGill, Nev., made by S. H. Linka in June 1937, furnished the following data:

Metal quotation:	Gold	$35.00 per ounce	
	Silver	.77 per ounce	
		Ounces	
Settlement assay:	Gold	1.70	
	Silver	17.33	
		Percent	
	Silica	63.4	
	Alumina	5.7	
	Iron	.4	
	Lime	11.7	
		Pounds	
Net weight:		31,700	
Moisture, 3.42 percent		1,084	
Dry weight		30,616 or 15.308 tons	
Metal payment:	100 percent of gold at $32.897 per ounce		$55.92
	90 percent of silver at $0.766 per ounce		11.95
	Gross value per ton		67.87
Treatment charge:			6.00
	Net value per ton		61.87
	15.308 tons at $61.87	$947.11	
Deductions:	Sampling	7.65	
	Net proceeds	939.46	